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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,420	04/05/2005	Andrei Radulescu	NL03 0771 US	6715

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EXAMINER	
KIM, EDWARD J	

ART UNIT	PAPER NUMBER
2455	

MAIL DATE	DELIVERY MODE
11/24/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,420	RADULESCU ET AL.	
	Examiner	Art Unit	
	EDWARD J. KIM	2455	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-9* is/are pending in the application.

4a) Of the above claim(s) *2* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Amendment filed on 07/08/2009.

2. Claims 1 and 3-9 are pending in this office action. Claims 1 and 7 have been amended. Claim 9 has been newly added.

Response to Amendment

3. The Examiner withdraws previous objections to the Abstract, however retains the previous objections on the Specification.

4. The Examiner withdraws previous 35 USC 112 second paragraph rejections in view of the Amendment filed on 07/08/2009.

5. The Examiner notes that in the previous Office Action, the heading for the rejection was a typological error, and notes that the Applicant understood it to be a 35 USC 103(a) rejection (refer to pg.10 of the Amendment filed on 07/08/2009)

Response to Arguments

6. Applicant's arguments filed on 07/08/2009 have been fully considered but they are not persuasive.

The Applicant argues,

> "Sahasrabuddhe shows Multicast Routing Algorithms and Protocols…while Fig.1(b) does show a single source communication split to multiple destinations, nowhere within the four corners of Sahasrabuddhe, is an addressing scheme for implementing multicasting, taught, disclosed or suggested" (refer to pg.11 of the Amendment filed on 07/08/2008)
> and
> "It is clear from a review of Sahasrabuddhe, that no addressing scheme is taught, disclosed or suggested" (refer to pg.12 of the Amendment filed on 07/08/2008).

In response:

The claim language is broad and generic that conventional multicasting system and methods still read on the claim language.

The Examiner has previously provided a copy of the section "8.7 Multicast Routing" of "Communication Networks: Fundamental Concepts and Key Architectures" by Leon-Garcia et al., which is used for a college course in Computer Networks 101, wherein multicasting is defined. As evidenced, multicast is a widely known term in the field of art which refers to one-to-many transmission of data over networks, wherein one copy is sent to a node, which in turn copies and transmits to multiple nodes. The broadcasting in multicasts may be assigned to ranges of addresses such as subnets, etc.

Specification

7. It is noted by the Examiner that the Applicant has failed to disclose what the prior art is, what problem and how the invention is trying to solve (for example, no distinction between Background of the Invention and Detailed Description of the Invention).

8. It is the Applicant's duty to follow the Arrangement of the Specification, even if no Background of the Invention is disclosed. The Arrangement of the Specification needs to be complied in before allowance of the application.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

No reference in the disclosure can be found regarding the claimed subject matter of claim 9, wherein the at least one multicast address is further mapped onto at least one further address in the range of addresses that in turn is mapped to at least two third electronic modules.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. No reference in the disclosure can be found regarding the claimed subject matter of claim 9, wherein the at least one multicast address is further mapped onto at least one further address in the range of addresses that in turn is mapped to at least two third electronic modules. The claim fails to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 1, 3-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Davis et al. (US Patent #5,754,764), hereinafter referred to as Davis, in view of Sahasrabuddhe et al. ("Multicast routing algorithms and protocols: a tutorial", Network, IEEE, Jan/Feb 2000 vol.14 Issue 1, ISSN 0890-8044), hereinafter referred to as Sahasrabuddhe.

Regarding claim 1, Davis discloses, an integrated circuit comprising a network and a plurality of electronic modules, said electronic modules being arranged to communicate to each other via the network (Davis, Abstract, col.1 ln.58-61), wherein the network is arranged to establish transactions between a first electronic module and at least two second electronic modules (Davis, col.3 ln.22-45, col.15 ln.19-60, col.27 ln.38-40, col.51 ln.22-42), characterized in that the network comprises means for replicating a single request from the first module into at least two replicated requests, and for sending the replicated requests to the second electronic modules (Davis, col.27 ln.38-40, col.51 ln.22-42. It is inherent in multicasting that the message to be multicast are replicated accordingly.), wherein said means for replicating comprises an address space and a facility for mapping at least one multicast address onto at least two further addresses in a range of addresses (Davis, col. 27 ln.38-40, col.51 ln.22-42, col.63 ln.27-46. Davis discloses an address translation table for mapping purposes.).

However, Davis fails to explicitly disclose, wherein the range of addresses comprises a first subset range of addresses and a second subset range of addresses, wherein the number of addresses in each of the first and second subset ranges of addresses is greater than a single address, wherein a first one of the second electronic modules is associated with the first subset range of addresses such that any request sent to any of the first subset range of address is sent to the first one of the second electronic modules and a second one of the second electronic modules is associated with the second subset range of addresses such that any request sent to any of the second subset range of address is sent to the second one of the second electronic modules. Sahasrabuddhe discloses, In the art of computer networks, multicast routing may be carried out in various ways. The two most basic methods is as follows: (1) via unicasting *n* point-to-point connections, where the sender/source replicates *n* number of messages/data/requests (2) via a single multicast connection that is then distributed to more than one multicast destinations by a module other than the sender/source – one-to-many multicast - (Sahasrabuddhe, fig.1, fig.2, fig.3, fig.4 left column pg.90, right column pg.91, left column pg.92). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Davis with those of Sahasrabuddhe. One would have been motivated to do so, since Davis discloses multicasting and Sahasrabuddhe discloses a tutorial of utilizing multicasting. As explained in the Response to Arguments section, multicasting is a widely known term used in the field of art, wherein ranges of addresses are also utilized to realize the multicasting.

Regarding claim 3, Davis disclosed the limitations, as described in claim 1, and further discloses, an integrated circuit, wherein the means for replicating further comprises a facility for mapping at least one first multicast address onto at least one second multicast address, provided

that the second multicast address is not mapped onto the first multicast address (Davis, col. 27 ln.38-40, col.51 ln.22-42, col.63 ln.27-46.).

Regarding claim 4, Davis disclosed the limitations, as described in claim 1, and further discloses, an integrated circuit, wherein the means for replicating further comprises a facility for mapping a range of multicast addresses onto at least the first and second subset ranges of addresses (Davis, col. 27 ln.38-40, col.51 ln.22-42, col.63 ln.27-46.).

Regarding claim 5, Davis disclosed the limitations, as described in claim 1, and further discloses, an integrated circuit, wherein the single request comprises a connection identifier for identifying a multicast connection, wherein the multicast connection includes at least one of guaranteed throughput, latency and jitter, ordered delivery, and flow control (Davis, col. 27 ln.38-40, col.51 ln.22-42, col.63 ln.27-46. Davis discloses that the multicast connection is identified via hashing.).

Regarding claim 6, Davis disclosed the limitations, as described in claim 1, and further discloses, an integrated circuit, wherein said means for replicating comprises a network interface circuit for performing the replication of the single request into the replicated requests, and wherein the network interface circuit sends the replicated requests to the second modules (Davis, col. 27 ln.38-40, col.51 ln.22-42, col.63 ln.27-46.).

Regarding claim 7, Davis discloses, a method for sending requests in an integrated circuit comprising a network and a plurality of electronic modules, which communicate to each other via the network (Davis, Abstract, col.1 ln.58-61), wherein the network establishes transactions between a first electronic module and at least two second electronic modules (Davis, col.3 ln.22-45, col.15 ln.19-60, col.27 ln.38-40, col.51 ln.22-42), characterized in that the method comprises

the network replicating a single request from the first module into at least two replicated requests, and the network sending the replicated requests to the second electronic modules (Davis, col.27 ln.38-40, col.51 ln.22-42. It is inherent in multicasting that the message to be multicast are replicated accordingly.), wherein said means for replicating comprises an address space and a facility for mapping at least one multicast address onto at least two further addresses in a range of addresses (Davis, col. 27 ln.38-40, col.51 ln.22-42, col.63 ln.27-46. Davis discloses an address translation table for mapping purposes.).

However, Davis fails to explicitly disclose, wherein the range of addresses comprises a first subset range of addresses and a second subset range of addresses, wherein the number of addresses in each of the first and second subset ranges of addresses is greater than a single address, wherein a first one of the second electronic modules is associated with the first subset range of addresses such that any request sent to any of the first subset range of address is sent to the first one of the second electronic modules and a second one of the second electronic modules is associated with the second subset range of addresses such that any request sent to any of the second subset range of address is sent to the second one of the second electronic modules. Sahasrabuddhe discloses, In the art of computer networks, multicast routing may be carried out in various ways. The two most basic methods is as follows: (1) via unicasting *n* point-to-point connections, where the sender/source replicates *n* number of messages/data/requests (2) via a single multicast connection that is then distributed to more than one multicast destinations by a module other than the sender/source (Sahasrabuddhe, fig.1, fig.2, fig.3, fig.4 left column pg.90, right column pg.91, left column pg.92). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Davis with those of

Sahasrabuddhe. One would have been motivated to do so, since Davis discloses multicasting and Sahasrabuddhe discloses a tutorial of utilizing multicasting. As explained in the Response to Arguments section, multicasting is a widely known term used in the field of art, wherein ranges of addresses are also utilized to realize the multicasting.

Regarding claim 8, Davis disclosed the limitations, as described in claim 1, and further discloses, wherein the means for replicating further comprises a facility for mapping at least one first multicast address onto two or more addresses associated with a single one of the second electronic modules (Sahasrabuddhe, fig.1, fig.2, fig.3, fig.4 left column pg.90, right column pg.91, left column pg.92).

Regarding claim 9, Davis disclosed the limitations, as described in claim 1, and further discloses, wherein the facility for mapping the at least one multicast address onto at least two further addresses in the range of addresses is arranged for further mapping the at least one multicast address onto at least one further address in the range of addresses that in turn is mapped to at least two third electronic modules (Sahasrabuddhe, fig.1, fig.2, fig.3, fig.4 left column pg.90, right column pg.91, left column pg.92).

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD J. KIM whose telephone number is (571)270-3228. The examiner can normally be reached on Monday - Friday 7:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward J Kim/
Examiner, Art Unit 2455
/saleh najjar/

Supervisory Patent Examiner, Art Unit 2455